

*Sub
ble*

✓ 27 A process for producing a laminate comprising the following steps:

- a) providing an openly hydrophobicized leather layer having an inner surface and an outer surface;
- b) providing a liquid water resistant and water vapor permeable functional layer;
- c) providing an adhesive for bonding the leather layer and the functional layer together adhesively;
- d) unmediatedly laminating the inner surface of the leather layer onto the functional layer by joining the adhesive together between the leather layer and the functional layer; and
- e) wherein the laminate has a water vapor transmission resistance (Ret) of less than 600×10^{-3} (m^2 mbar)/W and a crumple flex durability of at least 50,000 cycles.

REMARKS

Claims 1-37 are pending and stand rejected. Claims 1 and 27 have been amended. Reconsideration is respectfully requested in view of the above amendments and the following remarks.

The presently claimed invention is a laminate comprising, among other things, a liquid water-resistant and water-vapor-permeable functional layer, and at least one leather layer having an outer surface and an inner surface, wherein the leather layer is opening hydrophobicized and is laminated with its inner surface unmediatedly onto one side of the functional layer, the laminate having a water vapor transmission resistance of less than 600×10^{-3} (m^2 mbar)/W, and a crumple flex durability of at least 50,000 cycles. The claimed invention also relates to a method for making such a laminate.

Claims 1-4, 6, 7, 10-12, 15-28, and 35-37 stand rejected under 35 USC §102(b) as being anticipated by Driskill et al. (U.S. 4,925,732). Applicant respectfully submits that this rejection is not well taken in that every element of the claimed invention is not disclosed by Driskill et al. As stated above, the

claimed invention requires the use of a leather layer which is openly hydrophobicized and which leather is laminated with its inner surface unmediatedly onto one side of the functional layer of the laminate. The obtained laminate has a water vapor transmission resistance of the less than 600×10^{-3} (m^2 mbar)/W, and a crumple flex durability of at least 50,000 cycles. Applicant has found that utilizing the openly hydrophobicized leather layer laminated to the functional layer, as stated above, results in a laminate having surprising breathability and durability as indicated by the claimed water vapor transmission resistance and crumple flex durability values.

Since Driskill et al. fail to disclose every element of the claimed invention, applicant respectfully submits that the rejection under 35 USC §102(b) is improper and should be withdrawn.

Claims 13 and 14 stand rejected under 35 USC §103(a) as being unpatentable over Driskill et al. as discussed above. For the reasons stated above, applicant respectfully submits that this rejection should be withdrawn as well.

Claims 5 and 29-34 stand rejected under 35 USC §103(a) as being unpatentable over Driskill et al. in view of McConnell et al. (U.S. 4,299,933). The Examiner asserts that Driskill et al. does not disclose the use of an adhesive that is a copolyester or a copolyamide, but McConnell et al. disclose a composition comprising a linear thermoplastic copolyester and that certain polyesters are known to be useful as adhesives for bonding fabrics and leather. Applicant respectfully traverses this rejection.

Applicant submits that McConnell et al. fail to provide the deficiencies of Driskill et al. as discussed above. Accordingly, applicant respectfully requests that this rejection be withdrawn.

Claims 8-9 stand rejected under 35 USC §103(a) as being unpatentable over Driskill et al. in view of Kenigsberg et al. (US 5,156,780). The Examiner asserts that Driskill et al. does not disclose the use of a hydrophobicizer, but that Kenigsberg et al. involves impregnating a microporous substrate with a solution of a fluorinated monomer. The Examiner asserts that Kenigsberg et al. teaches that it is desirable to have porous materials that will repel water and oil, but at the same time allow the passage of air and other gases. The Examiner concludes that it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the laminate and provide it with a water-

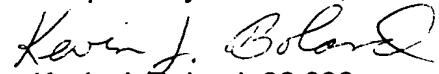
repellant coating that includes a fluorocarbon with the motivation of having a porous material that will repel water and oil, but at the same time allow the passage of air and other gases. Applicant respectfully traverses this rejection.

Applicant submits that Kenigsberg et al. disclose the use of fluoroacrylate monomers to treat a porous substrate to achieve water and oil repellency while maintaining the porosity thereof. Applicant does not understand the disclosure of Kenigsberg et al. to disclose or suggest the use of fluorocarbons, as suggested in the Office Action. Thus, applicant submits that this rejection should be withdrawn.

As all of the outstanding rejections have been addressed and overcome, applicant respectfully requests issuance of a notice of allowance directed toward claims 1-37.

Should the office have any questions, the office is invited to telephone applicant's undersigned representative.

Respectfully submitted,


Kevin J. Boland, 36,090
W. L. Gore & Associates, Inc.
551 Paper Mill Road
P. O. Box 9206
Newark, DE 19714-9206
(302) 738-4880

Date: July 18, 2002

REWRITTEN CLAIMS IN MARKED UP FORM PURSUANT TO 37.C.F.R.
121(c)(1)(ii):

1. (Amended) A laminate comprising
a liquid water resistant and water vapor permeable functional layer,
and at least one leather layer having an outer surface and an inner
surface,
wherein the leather layer is openly hydrophobicized and
is laminated with its inner surface unmediatedly onto one side of the
functional layer,
the laminate having a water vapor transmission resistance (Ret) of less
than 600×10^{-3} (m² mbar)/W and a crumple flex durability of at least 50,000
cycles.
27. (Amended) A process for producing a laminate comprising the following
steps:
 - a) providing an openly hydrophobicized leather layer having an inner
surface and an outer surface;
 - b) providing a liquid water resistant and water vapor permeable
functional layer;
 - c) providing an adhesive for bonding the leather layer and the
functional layer together adhesively;
 - d) unmediatedly laminating the inner surface of the leather layer onto
the functional layer by joining the adhesive together between the
leather layer and the functional layer[.]; and
 - e) wherein the laminate has a water vapor transmission resistance
(Ret) of less than 600×10^{-3} (m² mbar)/W and a crumple flex
durability of at least 50,000 cycles.

CLEAN VERSION OF ALL CLAIMS

1. A laminate comprising
a liquid water resistant and water vapor permeable functional layer,
and at least one leather layer having an outer surface and an inner
surface,
wherein the leather layer is openly hydrophobicized and
is laminated with its inner surface unmediatedly onto one side of the
functional layer,
the laminate having a water vapor transmission resistance (Ret) of less
than 600×10^{-3} (m² mbar)/W and a crumple flex durability of at least 50,000
cycles.
2. The laminate of claim 1, wherein the inner surface of the leather layer is
the flesh side of the leather.
3. The laminate of claim 1, wherein an adhesive is situated between the
functional layer and the leather layer to bond the functional layer and the leather
layer together adhesively.
4. The laminate of claim 3, wherein the adhesive is selected from the group
of the polyurethanes, polyesters, polyamides.
5. The laminate of claim 4, wherein the adhesive is a copolyester or a
copolymide.
6. The laminate of claim 4, wherein the adhesive is a polyurethane.
7. The laminate of claim 4, wherein the adhesive is a mixture of adhesives
from the group of the polyurethanes, polyesters, polyamides.
8. The laminate of claim 1, wherein the leather layer has been saturated with
a hydrophobicizer from the group of the fluorocarbons, silicones or polysiloxanes.
9. The laminate of claim 8, wherein the hydrophobicizer is a fluorocarbon.
10. The laminate of claim 1, wherein the leather layer comprises natural
leather.

11. The laminate of claim 1, wherein the leather layer comprises a leather substitute.
12. The laminate of claim 1, wherein the leather layer has a spray rating greater than 70%.
13. The laminate of claim 1, wherein the leather layer has a thickness of between 0.8 mm and 2 mm.
14. The laminate of claim 13, wherein the leather layer has a thickness of between 1 mm and 1.5 mm.
15. The laminate of claim 1 having a water vapor transmission resistance (Ret) of less than 400×10^{-3} ($\text{m}^2 \text{ mbar}/\text{W}$).
16. The laminate of claim 17 having a water vapor transmission resistance (Ret) of less than 300×10^{-3} ($\text{m}^2 \text{ mbar}/\text{W}$).
17. The laminate of claim 1, wherein the leather layer after complete immersion in deionized water for 1 hour increases by less than 50% in weight compared with a dry laminate.
18. The laminate of claim 17, wherein the leather layer after complete immersion in deionized water for 1 hour increases by less than 10% in weight compared with a dry laminate.
19. The laminate of claim 1, wherein the functional layer comprises a textile sheet material which is laminated onto the other side of the functional layer.
20. The laminate of claim 19, wherein the textile sheet material is a woven fabric, a consecutive course formation knitted fabric, a nonwoven fabric or a synchronous course formation knitted fabric.
21. The laminate of claim 1, wherein the functional layer is a membrane or a film.

22. The laminate of claim 1, wherein the functional layer is selected from the group of substances consisting of polyesters, polyamides, polyolefins including polyethylene and polypropylene, polyvinyl chloride, polyketones, polysulfones, polycarbonates, fluoropolymers including polytetrafluoroethylene (PTFE), polyacrylates, polyurethanes, copolyether esters, copolyetheramides.
23. The laminate of claim 22, wherein the functional layer is expanded PTFE.
24. The laminate of claim 1, wherein the laminate is waterproof at a water pressure of greater than 0.13 bar.
25. The laminate of claim 1, wherein the leather layer has an abrasion resistance of <3 by the Darmstadt method.
26. Apparel comprising a laminate as claimed in any of claims 1-25, wherein the outer surface of the leather layer faces away from the body.
27. A process for producing a laminate comprising the following steps:
 - a) providing an openly hydrophobicized leather layer having an inner surface and an outer surface;
 - b) providing a liquid water resistant and water vapor permeable functional layer;
 - c) providing an adhesive for bonding the leather layer and the functional layer together adhesively;
 - d) unmediatedly laminating the inner surface of the leather layer onto the functional layer by joining the adhesive together between the leather layer and the functional layer; and
 - e) wherein the laminate has a water vapor transmission resistance (Ret) of less than 600×10^{-3} (m^2 mbar)/W and a crumple flex durability of at least 50,000 cycles.
28. The process of claim 27, wherein the adhesive is continuously inserted.
29. The process of claim 27, wherein the adhesive is applied in dot form.
30. The process of claim 27, wherein the adhesive is applied in pulverulent form.

31. The process of claim 27, wherein the adhesive is applied to one side of the functional layer prior to step b).
32. The process of claim 31, wherein the inner surface of the leather layer is laminated onto the adhesive-provided side of the functional layer.
33. The process of claim 27, wherein the inner surface of the leather layer is provided with an adhesive prior to step a).
34. The process of claim 33, wherein the functional layer is laminated onto the adhesive-provided inner surface of the leather layer.
35. The process of claim 28, wherein the adhesive is inserted as a continuous single adhesive layer between the functional layer and the leather layer.
36. The process of claim 27, wherein the adhesive is selected from the group of the polyurethanes, polyesters, polyamides.
37. The process of claim 36, wherein the adhesive is a polyurethane.